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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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CANTON, MA 02021-2714

EXAMINER

PATEL, DHAIRYA A

ART UNIT PAPER NUMBER

2151

DATE MAILED: 05/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/995,464

Applicant(s)

VEPRINSKY ET AL.

Examiner

Dhairya A. Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-10 is/are pending in the application.
- 4a) Of the above claim(s) 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-10 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/20/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to communication filed on 4/12/2005. Claims 1-5,7-10 are presented for examination. Claim 6 is cancelled.
2. As per claim 7, an rejection was made under USC 112 second paragraph in the previous office action. The USC 112 second paragraph is withdrawn.

Claim Objections

Claim 7 is objected to because of the following informalities:

According to claim 7, it states "The method of claim 6, wherein..." is improper dependent claim because claim 6 is cancelled. Therefore examiner considered claim 7 dependent on claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5,7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanai in view of Blankenship et al. U.S. Patent # 6,624,388 (hereinafter Blankenship).

1. As per claim 1, Yanai teaches in a remote data mirroring arrangement of data storage systems (Fig. 1), a method of operating a data storage system comprises:
 - determining that storage traffic is to be transferred between the data storage system (Fig. 1 element 14) and a remote data storage system (Fig. 1 element 46) to which the data storage system is coupled by an IP network (Fig. 1 element 40) (column

8 lines 21-36) in accordance with a remote data service application;(column 9 lines 58-67) (column 10 lines 1-8, lines 14-22) and

The reference teaches copying data (transferring storage traffic) between data storage system and remote secondary data secondary system (Fig. 1 element 46) to which the data storage system is coupled by T1 or T3 based networks and SONET network which basically a IP network with the remote data service application.

-enabling transfer of the storage traffic between the data storage system and the remote data storage system over the IP network using the connection to the IP network (Column 9 lines 58-67) (Column 10 lines 1-8, lines 14-22).

The reference teaches copying data (transferring storage traffic) between data storage system and remote secondary data secondary system (Fig. 1 element 46) to which the data storage system is coupled by T1 or T3 based networks and SONET network which basically a IP network with the remote data service application.

Yanai fails to teach using an interface between remote data service application and a TCP/IP protocols software layer to form a connection to the IP network, wherein the interface is split across two processors with a first interface portion residing on a first processor and a second interface portion residing on a second processor. Blankenship teaches using an interface between remote data service application and a TCP/IP protocols software layer to form a connection to the IP network, wherein the interface (Fig. 4 element 174)(Fig. 1 element 68, 70) is split across two processors (Fig. 3 element 124, 126), with a first interface portion residing on a first processor and a

second interface portion residing on a second processor (Fig. 1 element 30,20)(Fig. 4) (column 9 lines 40-58);

The reference teaches having remote system and welding system each having a processor in which the remote system and welding system are split by an interface which means that since the remote data system application and welding system and each contain processors, the processors are split by two processors which the first interface portion (Fig. 1 element 70) on the remote system processor and the second interface portion on the welding system processor (Fig. 1 element 68). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to implement Yanai's invention in Blankenship's invention to come up with implementing an interface between remote data service application and TCP/IP protocols software layer to form a connection to the IP network in which the interface is split across two processors in the remote data mirroring arrangement of data storage system. The motivation for doing so would have been to increase the efficiency load balancing because the interface is split across multiple processors.

2. As per claim 2, Yanai teaches the method of claim 1, wherein the IP network is the Internet (Column 8 lines 21-36)

3. As per claim 3, Yanai teaches the method of claim 1, but fails to teach IP network is a private network. Blankenship teaches IP network is a private network (column 56-59). It would have been obvious at the time of applicant's invention to implement Yanai's invention in Blankenship's invention to come up with private network. The

motivation for doing so would have so that data can be mirrored to a remote storage, which would be part of the private network.

4. As per claim 4, Yanai teaches the method of claim 1, but fails to teach enabling comprises using a socket interface to interface an operation of the remote data service to TCP/IP protocols. Blankenship teaches a socket interface to interface (column 9 lines 43-46) an operation of the remote data service to TCP/IP protocols. (Fig. 4)(Column 9 lines 40-58). It would have been obvious at the time of applicant's invention to implement Yanai's invention in Blankenship's invention to come up with a socket interface for the operation of remote data service. The motivation for doing so would have been so that the TCP/IP may interface to plurality of drivers to communicate with network interfaces (column 9 lines 40-58).

5. As per claim 5, Yanai and Blankenship teaches the method of claim 4, but Yanai further teaches wherein the connection comprises TCP/IP over Gigabit Ethernet (column 8 lines 22-36). The reference teaches the connection is high-speed connection using SONET, which ranges its speed up to 2.8 Gbps.

6. As per claim 7, Yanai and Blankenship teaches the method of claim 1, but Blankenship further teaches wherein the first interface and remote data service application conform to a common interface. (column 9 lines 46-56). It would have been obvious at the time of applicant's invention to implement Yanai's invention in Blankenship's invention to come up with first socket and remote data service application to conform into a common interface. The motivation for doing so would have been so that communicate using TCP/IP stack.

7. As per claim 8, Yanai teaches the method of claim 4, but fails to teach enabling further comprises using the socket interface to create a socket from which the native connection to the IP network is formed. Blankenship teaches enabling further comprises using the socket interface to create a socket from which the native connection to the IP network is formed (column 9 lines 41-54). It would have been obvious at the time of applicant's invention to implement Yanai's invention in Blankenship's invention to come up with a native connection using socket interface. The motivation for doing so would have been so that communication to the remote system can be established using the socket interface in an IP network

As per claim 9, it teaches same limitation as claim 1, therefore rejected under same basis.

As per claim 10, Yanai teaches a data storage system for use in a remote data mirroring, arrangement of data storage systems comprising:

- one or more storage devices (Fig. 1 element 14,46);
- a controller coupled to the one or more storage devices (Fig. 1 element 16); and
- wherein the controller is configured to determine that storage traffic is to be transferred between the data storage system (Fig. 1 element 14) and a remote data storage system (Fig. 1 element 46) to which the data storage system is coupled by an IP network (Fig. 1 element 40) (column 8 lines 21-36) in accordance with a remote data service application;(column 9 lines 58-67) (column 10 lines 1-8, lines 14-22) and

The reference teaches copying data (transferring storage traffic) between data storage system and remote secondary data secondary system (Fig. 1 element 46) to which the data storage system is coupled by T1 or T3 based networks and SONET

-enable transfer of the storage traffic between the data storage system and the remote data storage system over the IP network using the connection to the IP network (Column 9 lines 58-67) (Column 10 lines 1-8, lines 14-22).

The reference teaches copying data (transferring storage traffic) between data storage system and remote secondary data secondary system (Fig. 1 element 46) to which the data storage system is coupled by T1 or T3 based networks and SONET network which basically a IP network with the remote data service application.

Yanai fails to teach using an interface between remote data service application and a TCP/IP protocols software layer to form a connection to the IP network, wherein the interface is split across two processors with a first interface portion residing on a first processor and a second interface portion residing on a second processor. Blankenship teaches using an interface between remote data service application and a TCP/IP protocols software layer to form a connection to the IP network, wherein the interface (Fig. 4 element 174)(Fig. 1 element 68, 70) is split across two processors (Fig. 3 element 124, 126), with a first interface portion residing on a first processor and a second interface portion residing on a second processor (Fig. 1 element 30,20)(Fig. 4) (column 9 lines 40-58);

The reference teaches having remote system and welding system each having a processor in which the remote system and welding system are split by an interface

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which means that since the remote data system application and welding system and each contain processors, the processors are split by two processors which the first interface portion (Fig. 1 element 70) on the remote system processor and the second interface portion on the welding system processor (Fig. 1 element 68). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to implement Yanai's invention in Blankenship's invention to come up with implementing an interface between remote data service application and TCP/IP protocols software layer to form a connection to the IP network in which the interface is split across two processors in the remote data mirroring arrangement of data storage system. The motivation for doing so would have been to increase the efficiency load balancing because the interface is split across multiple processors.

Remarks

As a remark, Applicant asserted:

1). As per claim 1, applicant asserted that Yanai neither describes nor suggests the arrangement of the independent claims comprising using an interface between remote data service application and a TCP/IP protocols software layer to form a connection to the IP network, wherein the interface is split across two processors with a first interface portion residing on a first processor and a second interface portion residing on a second processor or enabling transfer of the storage traffic between the data storage system and the remote data storage system over the IP network using a the connection to the IP network. Examiner accepts that Yanai does NOT teach using an interface between remote data service application and a TCP/IP protocols software

layer to form a connection to the IP network, wherein the interface is split across two processors with a first interface portion residing on a first processor and a second interface portion residing on a second processor but Examiner respectfully disagrees with the applicant that Yanai does not teach enabling transfer of the storage traffic between the data storage system and the remote data storage system over the IP network using a the connection to the IP network. As stated in the previous office action Yanai teaches enabling transfer of the storage traffic between the data storage system and the remote data storage system over the IP network using a the connection to the IP network (column 8 lines 15-47)(Column 9 lines 58-67) (Column 10 lines 1-8, lines 14-22).

The reference teaches copying data (transferring storage traffic) between data storage system and remote secondary data secondary system (Fig. 1 element 46) to which the data storage system is coupled by T1 or T3 based networks and SONET network which basically a IP network with the remote data service application.

2). Applicant also asserts that Blankenship there is no teaching of an interface used between a remote data service application and a TCP/IP protocol software layers to forma connection to the IP network, which interface is split across two processors. Examiner respectfully disagrees with the applicant. Blankenship teaches using an interface between remote data service application and a TCP/IP protocols software layer to form a connection to the IP network, wherein the interface (Fig. 4 element 174)(Fig. 1 element 68, 70) is split across two processors (Fig. 3 element 124, 126), with a first interface portion residing on a first processor and a second interface portion

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residing on a second processor (Fig. 1 element 30,20)(Fig. 4) (column 9 lines 40-58);

The reference teaches having remote system and welding system each having a processor in which the remote system and welding system are split by an interface which means that since the remote data system application and welding system and each contain processors, the processors are split by two processors which the first interface portion (Fig. 1 element 70) on the remote system processor and the second interface portion on the welding system processor (Fig. 1 element 68). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to implement Yanai's invention in Blankenship's invention to come up with implementing an interface between remote data service application and TCP/IP protocols software layer to form a connection to the IP network in which the interface is split across two processors in the remote data mirroring arrangement of data storage system. The motivation for doing so would have been to increase the efficiency load balancing because the interface is split across multiple processors.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A) "Remote Data Mirroring" by Yanai et al. U.S. Patent 5,742,792

B). "System and Method providing Distributed welding Architecture" by Blankenship et al. U.S. Patent # 6,6624,388

9.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dhairya A Patel whose telephone number is (571) 272-4066. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on (571) 272-3939. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DAP


ZARNI MAUNG
SUPERVISORY PATENT EXAMINER